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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,034

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Michel Roche

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EXAMINER

EVANS, GEOFFREY S

ART UNIT

PAPER NUMBER

3742

MAIL DATE

DELIVERY MODE

07/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/576,034	ROCHE ET AL.	
	Examiner	Art Unit	
	Geoffrey S. Evans	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 13-19 and 21-24 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060414</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. The information disclosure statement filed 14 April 2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. No copies of France Patent No. 2,844,916, United Kingdom Patent No. 2,153,140 and the article by Bull et al. are present in the image file wrapper. Accordingly these references have not been considered. Please note however that France Patent No. 2,844,916 is made of record on the accompanying PTOL-892 form.
2. Please submit a new abstract since there are currently two abstracts with the same date. Please note that an abstract should only be a single paragraph long.
3. Claim 24 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Regarding claim 24, it is unclear whether Applicant is reciting "packaging components" in the parenthetical expression in claim 24. For the remainder of this office action the phrase "particularly packaging components" is being given no patentable weight.
4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 3742

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 13,15 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in U.S. Patent No. 3,406,304 in view of An in U.S. Patent Application Publication No. 2002/0014827. Brewster discloses a chamber (tube 10) that is sealed and designed to be under a vacuum (see column 3, lines 25 and 26 and line 6 of the abstract), an anode (element 16) having a curvature (see figures) capable of resisting a pressure difference from the inside and the outside of the chamber. Brewster does not disclose that the cathode has a curvature or focusing the beam outside the chamber. An teaches using a cathode (element 28) having a cylindrical curvature to increase the density of the focused electrons in the electron beam. It would have been obvious to adapt Brewster in view of An to provide a cathode with a cylindrical curvature to increase the density of focused electrons in the electron beam and further to shape the anode and cathode so as to focus the electron beam outside the chamber so that it can be efficiently used industrially, e.g. on a workpiece. Regarding claim 15, An teaches using an emitting layer (element 30) that is heated by heater 32 to emit electrons. It

Art Unit: 3742

would have been obvious to adapt Brewster in view An to provide this as a functionally equivalent method of emitting electrons. Regarding claim 19, Brewster discloses using a pulse generator (element 26) that creates a pulsed voltage between the anode and the cathode.

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An as applied to claim 12 above, and further in view of Katsap et al. in U.S. Patent No. 6,528,799. Katsap et al. teach using an electron gun to give a kinetic energy of about 100 KeV (see column 5, lines 30-35) in a projection lithography system. It would have been obvious to adapt Brewster in view of An and Katsap et al. to provide this so that the electrons have the appropriate energy level for projection lithography.

8. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An as applied to claim 15 above, and further in view of Sommeria in U.S. Patent No. 3,651,360. Sommeria teaches using electron bombardment from a filament (element 4) to heat a cathode (see column 2, lines 28-30). It would have been obvious to adapt Brewster in view of An and Sommeria to provide this as a functionally equivalent method of heating the cathode.

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An as applied to claim 13 above, and further in view of Gaudel in France Patent No. 2,844,916. Gaudel teaches having an anode (element 3) and the cathode (element 2) forming portions of coaxial cylinders of revolution (see figure 1) in the related art area of x-ray generators to create a high intensity beam on the workpiece

Art Unit: 3742

(element 7). It would have been obvious to adapt Brewster in view of An and Gaudel to provide this to focus the electron beam outside the chamber onto a workpiece.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An as applied to claim 13 above, and further in view of Kiga et al. in U.S. Patent Application Publication No. 2002/0134946. Kiga et al. teach a window made of a thin metallic sheet for an electron beam apparatus with a thickness of 40 micrometers (see paragraph 5). It would have been obvious to adapt Brewster in view of An and Kiga to provide this so that the anode is thin and transparent to the electrons so that the anode can also optimally function as a window.

11. Claims 21 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An as applied to claim 21 above, and further in view of Swanson in U.S. Patent No. 3,486,060 and Anderson in U.S. patent No. 4,788,705. The anode disclosed in claim 13 is used as an anode and as a window between the sealed chamber and the outside. Swanson teaches using a gas flow to cool a window in an electron accelerator. Anderson teaches using a cooling gas flow (element 32, see column 2, lines 38 and 39). It would have been obvious to adapt Brewster in view of An, Swanson and Anderson to provide a cooling gas flow to prevent damage to the anode by cooling the anode.

12. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brewster in view of An as applied to claim 13 above, and further in view of Robinson in U.S. Patent No. 2,602,751. Robinson teaches using an electron beam to

Art Unit: 3742

irradiate an object for sterilization. It would have been obvious to adapt Brewster in view of An and Robinson to provide this to sterilize objects.

13. Claim 20 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S. Evans whose telephone number is (571)-272-1174. The examiner can normally be reached on Mon-Fri 7:30AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey S Evans/

Primary Examiner, Art Unit 3742